Sebastian Trimpe

List of Publications by Year
in descending order

58 papers	1,287 citations	759233 12 h-index	580821 25 g-index
58 all docs	58 docs citations	58 times ranked	1031 citing authors

#	Article	IF	Citations
1	Event-Based State Estimation With Variance-Based Triggering. IEEE Transactions on Automatic Control, 2014, 59, 3266-3281.	5.7	195
2	Learning an Approximate Model Predictive Controller With Guarantees. , 2018, 2, 543-548.		153
3	Safe and Fast Tracking on a Robot Manipulator: Robust MPC and Neural Network Control. IEEE Robotics and Automation Letters, 2020, 5, 3050-3057.	5.1	92
4	Automatic LQR tuning based on Gaussian process global optimization. , 2016, , .		79
5	Data-Efficient Autotuning With Bayesian Optimization: An Industrial Control Study. IEEE Transactions on Control Systems Technology, 2020, 28, 730-740.	5.2	49
6	Distributed Event-Based State Estimation for Networked Systems: An LMI Approach. IEEE Transactions on Automatic Control, 2018, 63, 269-276.	5.7	48
7	An Experimental Demonstration of a Distributed and Event-Based State Estimation Algorithm. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 8811-8818.	0.4	44
8	Depth-based object tracking using a Robust Gaussian Filter. , 2016, , .		40
9	Accelerometer-based tilt estimation of a rigid body with only rotational degrees of freedom. , 2010, , .		35
10	Feedback control goes wireless. , 2019, , .		34
11	A Self-Tuning LQR Approach Demonstrated on an Inverted Pendulum. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 11281-11287.	0.4	33
12	Wireless Control for Smart Manufacturing: Recent Approaches and Open Challenges. Proceedings of the IEEE, 2021, 109, 441-467.	21.3	33
13	On the choice of the event trigger in event-based estimation. , 2015, , .		31
14	Event-based state estimation with variance-based triggering. , 2012, , .		27
15	Sliding Mode Control with Gaussian Process Regression for Underwater Robots. Journal of Intelligent and Robotic Systems: Theory and Applications, 2020, 99, 487-498.	3.4	26
16	Resource-Aware IoT Control: Saving Communication Through Predictive Triggering. IEEE Internet of Things Journal, 2019, 6, 5013-5028.	8.7	23
17	Stability analysis of distributed event-based state estimation. , 2014, , .		21
18	Event-Triggered Learning for Resource-Efficient Networked Control. , 2018, , .		20

#	Article	IF	Citations
19	Event-triggered learning. Automatica, 2020, 117, 109009.	5.0	20
20	Eventâ€based state estimation: an emulationâ€based approach. IET Control Theory and Applications, 2017, 11, 1684-1693.	2.1	19
21	Event-Based State Estimation with Switching Static-Gain Observers. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 91-96.	0.4	17
22	Reduced communication state estimation for control of an unstable networked control system. , 2011, , .		16
23	Control-Guided Communication: Efficient Resource Arbitration and Allocation in Multi-Hop Wireless Control Systems. , 2020, 4, 127-132.		16
24	Event-based estimation and control for remote robot operation with reduced communication. , 2015, , .		14
25	On the design of LQR kernels for efficient controller learning. , 2017, , .		13
26	Robot Learning With Crash Constraints. IEEE Robotics and Automation Letters, 2021, 6, 1439-1446.	5.1	13
27	Evaluating Low-Power Wireless Cyber-Physical Systems. , 2018, , .		11
28	Overcoming Bandwidth Limitations in Wireless Sensor Networks by Exploitation of Cyclic Signal Patterns: An Event-triggered Learning Approach. Sensors, 2020, 20, 260.	3.8	11
29	A new perspective and extension of the Gaussian Filter. International Journal of Robotics Research, 2016, 35, 1731-1749.	8.5	10
30	Gait Learning for Soft Microrobots Controlled by Light Fields. , 2018, , .		10
31	Task space adaptation via the learning of gait controllers of magnetic soft millirobots. International Journal of Robotics Research, 2021, 40, 1331-1351.	8.5	10
32	Controller Design via Experimental Exploration With Robustness Guarantees. , 2021, 5, 641-646.		9
33	Structured learning of rigidâ€body dynamics: A survey and unified view from a robotics perspective. GAMM Mitteilungen, 2021, 44, e202100009.	5.5	8
34	Learning event-triggered control from data through joint optimization. IFAC Journal of Systems and Control, 2021, 16, 100144.	1.7	8
35	A limiting property of the matrix exponential with application to multi-loop control. , 2009, , .		7
36	Predictive and self triggering for event-based state estimation. , 2016, , .		7

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37	Hierarchical Event-Triggered Learning for Cyclically Excited Systems With Application to Wireless Sensor Networks. , 2020, 4, 103-108.		7
38	GoSafe: Globally Optimal Safe Robot Learning. , 2021, , .		7
39	Event-based sampling for reducing communication load in realtime human motion analysis by wireless inertial sensor networks. Current Directions in Biomedical Engineering, 2016, 2, 711-714.	0.4	6
40	Robust Gaussian filtering using a pseudo measurement. , 2016, , .		6
41	Online learning with stability guarantees: A memory-based warm starting for real-time MPC. Automatica, 2020, 122, 109247.	5.0	6
42	Event-Triggered Learning for Linear Quadratic Control. IEEE Transactions on Automatic Control, 2021, 66, 4485-4498.	5.7	6
43	Spatial Scheduling of Informative Meetings for Multi-Agent Persistent Coverage. IEEE Robotics and Automation Letters, 2020, 5, 3027-3034.	5.1	6
44	Less conservative polytopic LPV models for charge control by combining parameter set mapping and set intersection. , 2007, , .		5
45	Data-driven inference of passivity properties via Gaussian process optimization. , 2019, , .		5
46	Joint state and dynamics estimation with high-gain observers and Gaussian process models. , 2021, , .		5
47	A New Perspective and Extension of the Gaussian Filter. , 0, , .		5
48	Event-triggered Pulse Control with Model Learning (if Necessary). , 2019, , .		4
49	Predictive Triggering for Distributed Control of Resource Constrained Multi-agent Systems. IFAC-PapersOnLine, 2019, 52, 79-84.	0.9	4
50	Joint State and Dynamics Estimation With High-Gain Observers and Gaussian Process Models. , 2021, 5, 1627-1632.		4
51	LMI-based synthesis for distributed event-based state estimation. , 2015, , .		3
52	Learning-enhanced robust controller synthesis with rigorous statistical and control-theoretic guarantees. , 2021, , .		3
53	Communication rate analysis for event-based state estimation. , 2016, , .		1
54	Learning Fast and Precise Pixel-to-Torque Control: A Platform for Reproducible Research of Learning on Hardware. IEEE Robotics and Automation Magazine, 2022, 29, 75-84.	2.0	1

#	Article	IF	Citations
55	Scaling beyond Bandwidth Limitations: Wireless Control with Stability Guarantees under Overload. ACM Transactions on Cyber-Physical Systems, 2022, 6, 1-30.	2.5	1
56	A Limiting Property of the Matrix Exponential. IEEE Transactions on Automatic Control, 2014, 59, 1105-1110.	5.7	0
57	Guaranteed ℋ<inf>2</inf> performance in distributed event-based state estimation. , 2015, , .		0
58	Efficient Encoding of Dynamical Systems Through Local Approximations. , 2018, , .		0